



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,180	04/20/2004	Eric Scheper	2003-012	3179

32170 7590 06/30/2005

U.S. ARMY TACOM-ARDEC  
ATTN: AMSTRA-AR-GCL  
BLDG 3  
PICATINNY ARSENAL, NJ 07806-5000

EXAMINER

SEMUNEGUS, LULIT

ART UNIT	PAPER NUMBER
----------	--------------

3641

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/709,180

Applicant(s)

SCHEPER ET AL.

Examiner

Lulit Semunegus

Art Unit

3641

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-11 and 13 is/are rejected.
- 7) ☒ Claim(s) 5, 6 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

A

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Cros et al (6,234,082).

In regards to claims 1-3 and 11, Cros et al teaches a fin deployment system for attachment to a projectile having a main axis, comprising: at least three fins (12), each fin being hinged and locked (col. 3, lines 35-38); a retention cover (11) attached to the aft section of the projectile to cover and retain the fins while the projectile is in storage and before the projectile is launched, wherein the fins wrap around the aft section prior to deployment, and deploy radially relative to the projectile main axis (fig. 5 show the fins wrapped around the aft section).

In regards to claim 13, Cros et al teach fins (12) that are elastic material (col. 3, lines 35-37).

3. Claims 1-3 and 7-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Gauzza et al (3,695,556).

In regards to claims 1-3, Gauzza et al teach a fin deployment system comprising blades (16) wrapped around the aft section, using a plurality of hinges (20) attached to

Art Unit: 3641

an aft section of the projectile to rotate the fins from a stowed position to a deployed position after the projectile is launched.

In regards to claims 7-10, Gauzza et al teach a locking pin (44) used as a locking mechanism, wherein the pin further includes a post (48), which provides support for a lock pin spring (38).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett Cros et al (6,234,082) in view of Hellman (6,779,754). Cros et al teach all the limitations of claim 4 except the fin cover comprising a pressure reservoir. Hellman teaches a fin cover (14) comprise a pressure reservoir that uses a propellant gas to deploy after the projectile is launched to release the fins (col. 3, lines 1-4). At the time of the invention, it would have been obvious to one ordinarily skilled in the art to use propellant gas to deploy the fins of Cros et al to eliminate rear-end turbulence and produce faster deployment wherein Hellman teaches it is well known in the art to use mechanical device in combination with the gas pressured controlled system (col. 2, lines 49-54).

***Allowable Subject Matter***

6. Claims 5, 6 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Hellman (6,748,871) teaches a fin deployment system for attachment to a projectile having a main axis, comprising: at least three fins (16); a retention cover (14) attached to the aft section of the projectile to cover and retain the fins while the projectile is in storage and before the projectile is launched, wherein the fins wrap around the aft section prior to deployment, and deploy radially relative to the projectile main axis (fig. 2).
- Kautzsch et al (US2004/0200375) teach a fin deployment system comprising at least three fins (17) wrapped around the aft section and a retention cover (18).
- Jasse (2,941,470) teaches blades (10) wrapped around the aft section using hinges (fig. 1).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lulit Semunegus whose telephone number is (571) 272-6882. The examiner can normally be reached on Mon-Friday.

Art Unit: 3641

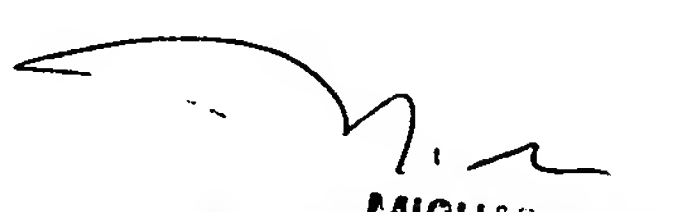
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on (571) 272-6873. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

.ls

6/21/2005

Lulit Semunegus  
Examiner  
Art Unit 3641

  
MICHAEL J. CARONE  
SUPERVISORY PATENT EXAMINER